

Fig. 1

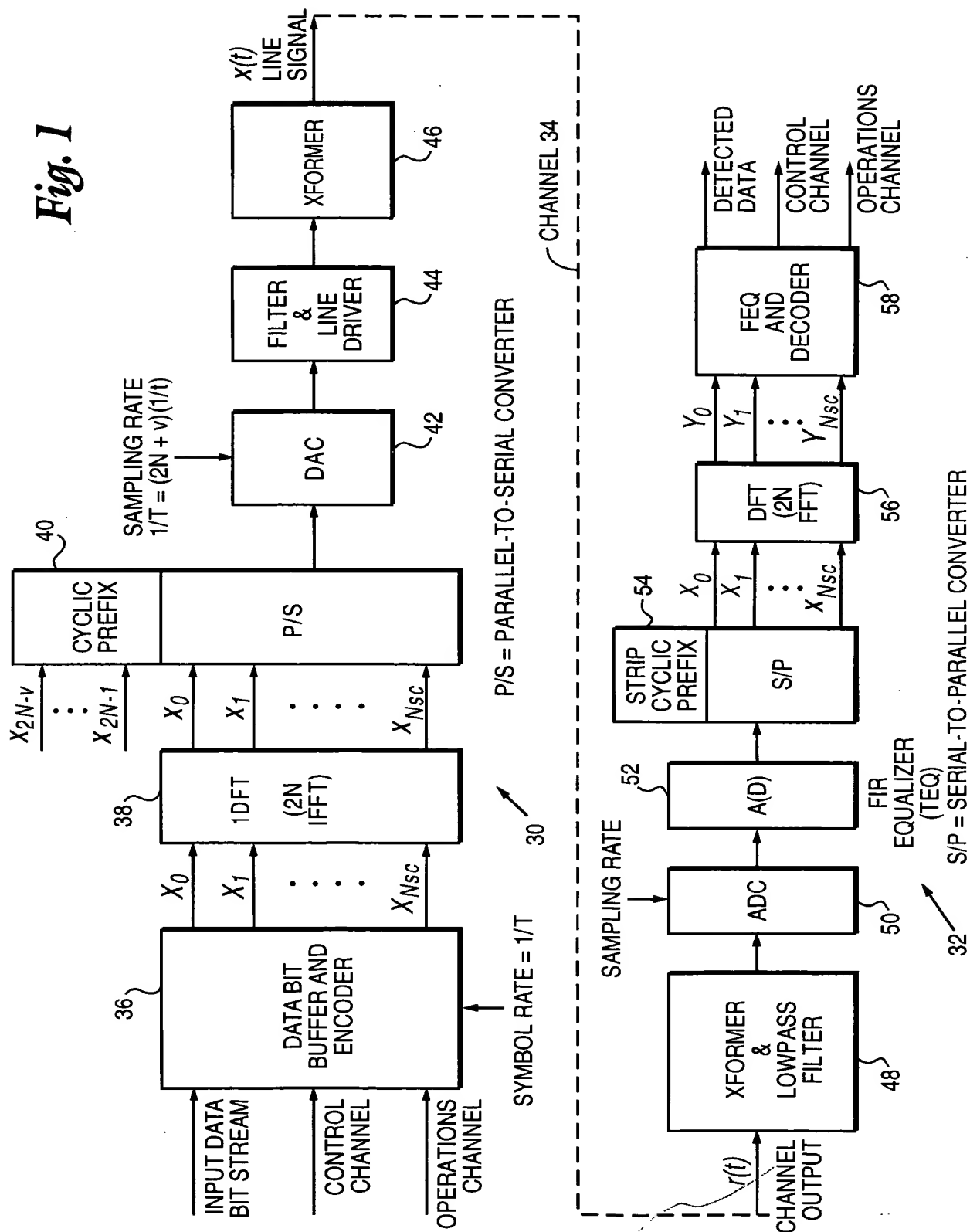


Fig. 2

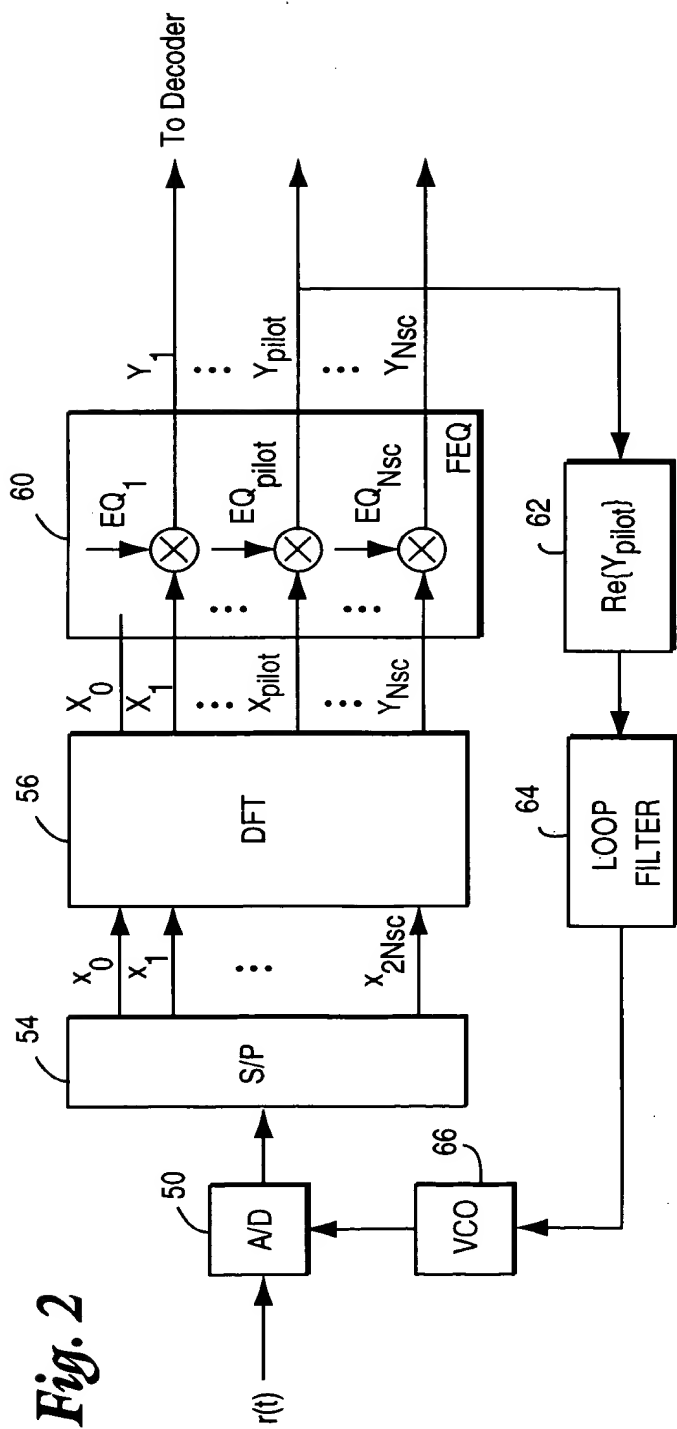


Fig. 3

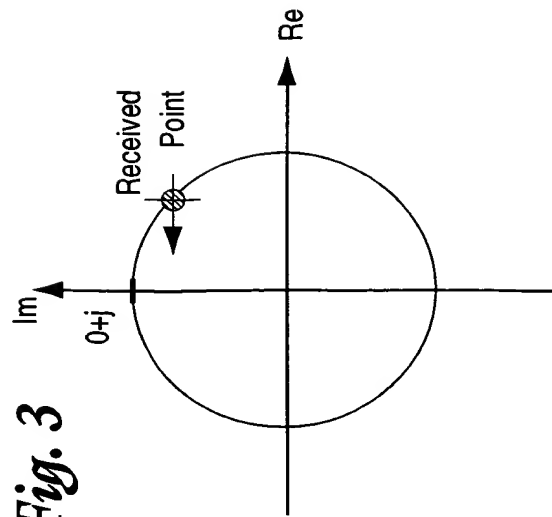


Fig. 5

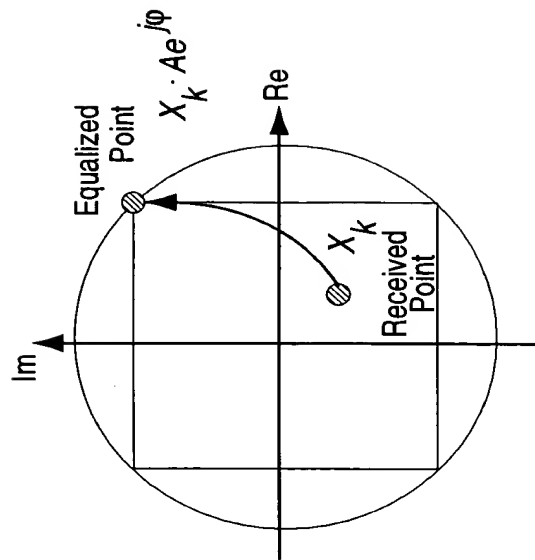


Fig. 4A

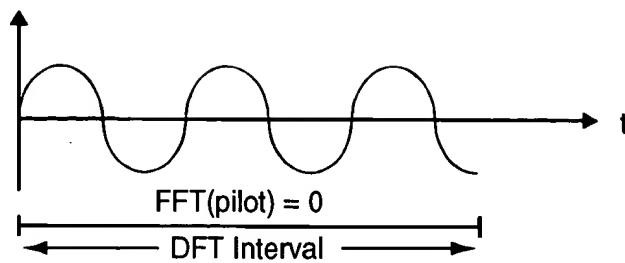


Fig. 4B

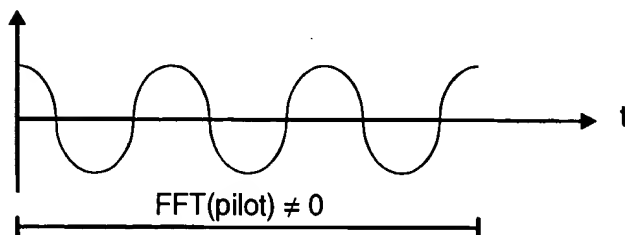


Fig. 4C

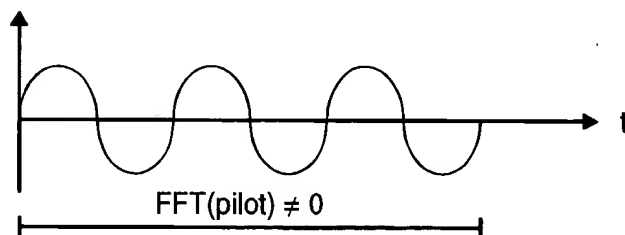


Fig. 7

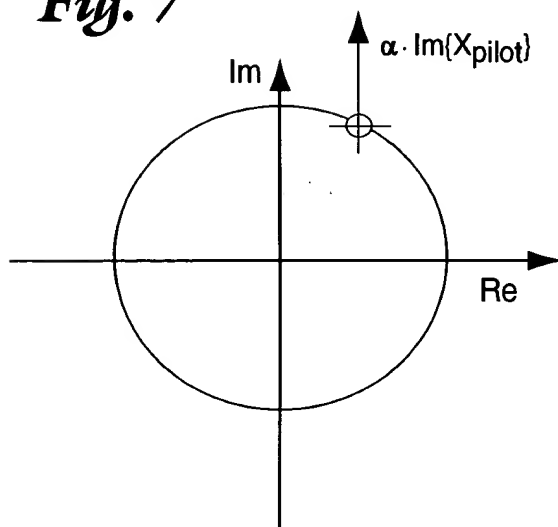
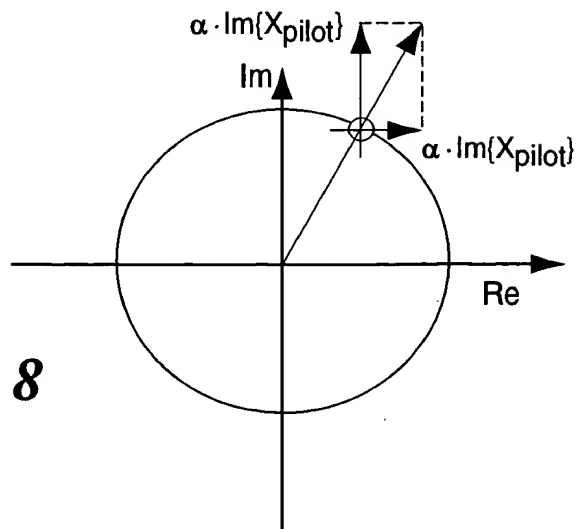


Fig. 8



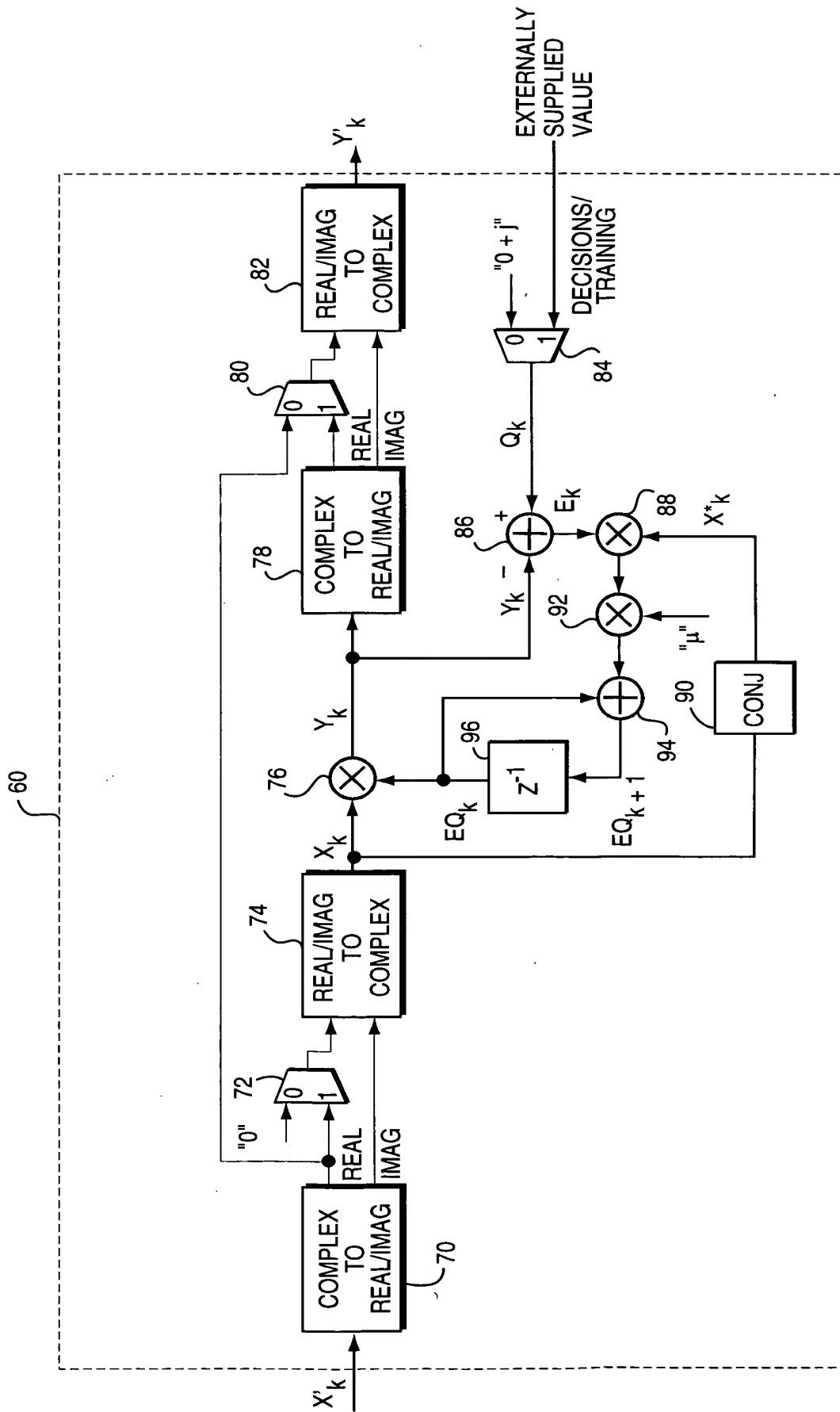


Fig. 6

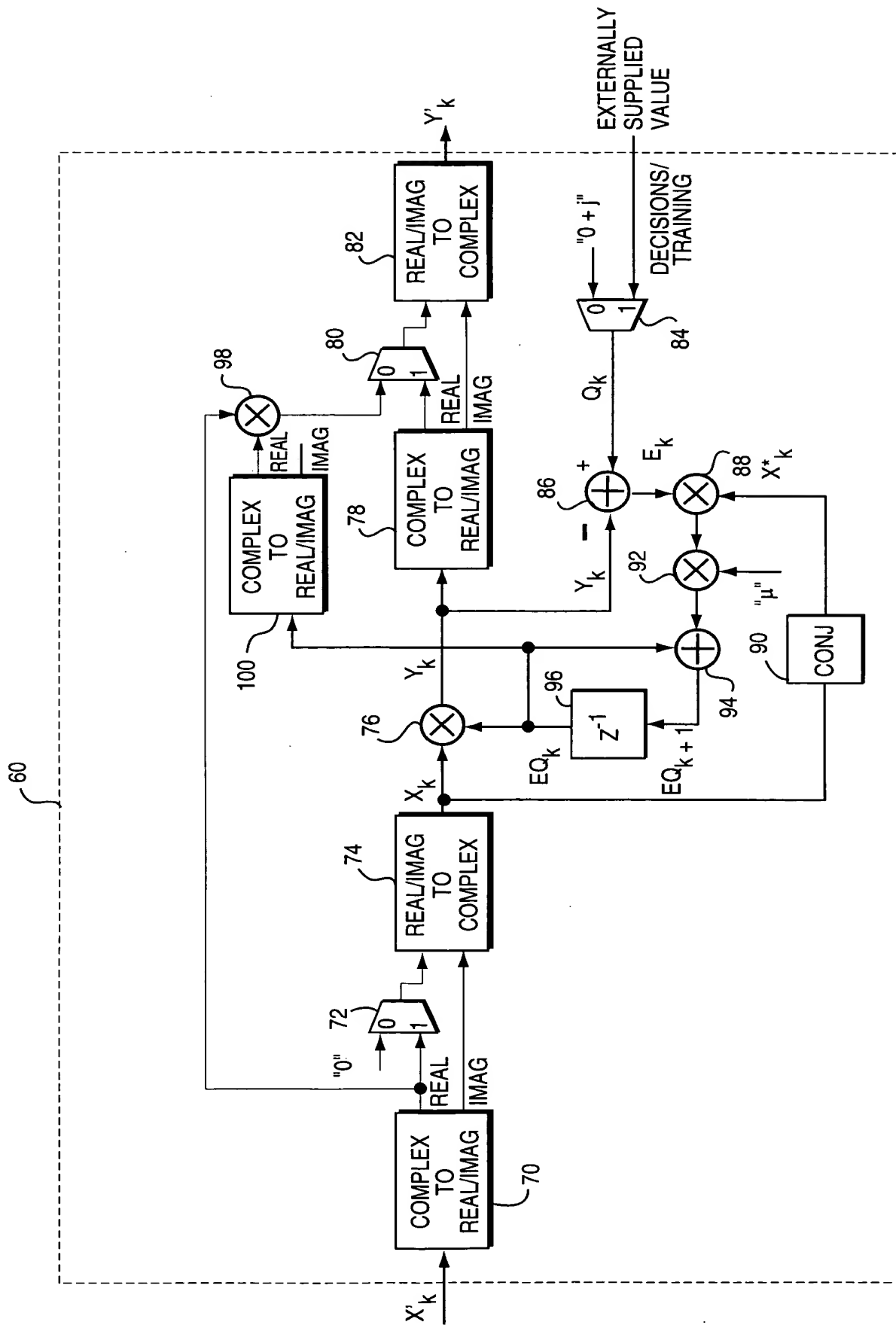


Fig. 9

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graph TD
    100[RECEIVE A KNOWN SIGNAL, e.g.,  
A PILOT TONE] --> 102[SEPARATE THE RECEIVED SIGNAL INTO  
REAL AND IMAGINARY COMPONENTS]
    102 --> 104[USE SEPARATE MECHANISMS TO PROCESS THE REAL  
AND IMAGINARY COMPONENTS IN THE EQUALIZER]
    104 --> 106{ONLY  
IMAGINARY COMPONENT  
EQUALIZED  
?}
    106 -- YES --> 108[SET THE REAL COMPONENT  
TO ZERO FOR PURPOSES  
OF EQUALIZATION]
    108 --> 110[USE THE UNEQUALIZED,  
REAL COMPONENT TO  
RECOVER/TRACK TIMING]
    110 --> 112[EQUALIZE ONLY THE  
IMAGINARY COMPONENT]
    112 --> 114[UPDATE THE EQUALIZER  
COEFFICIENT USING ONLY  
THE IMAGINARY COMPONENT]
    114 --> 116[COMBINE THE UNEQUALIZED,  
REAL AND EQUALIZED  
IMAGINARY COMPONENTS]
    106 -- NO --> 118[DETERMINE A REAL EQUALIZER  
COEFFICIENT EQr FOR  
THE KNOWN SIGNAL]
    118 --> 120[EQUALIZE BOTH REAL  
AND IMAGINARY  
COMPONENTS WITH EQr]
    120 --> 122[USE EQUALIZED  
REAL COMPONENT  
TO RECOVER/TRACK TIMING]
    122 --> 124[UPDATE EQr USING ONLY  
THE IMAGINARY COMPONENT]
    124 --> 126[COMBINE EQUALIZED  
REAL AND  
IMAGINARY COMPONENTS]
  
```

Fig. 10

Fig. 11

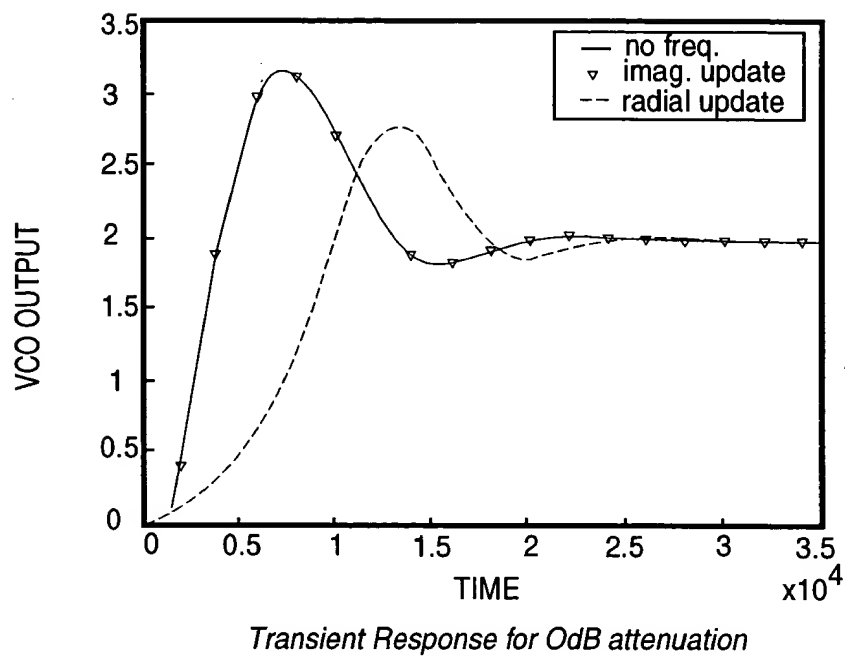


Fig. 12

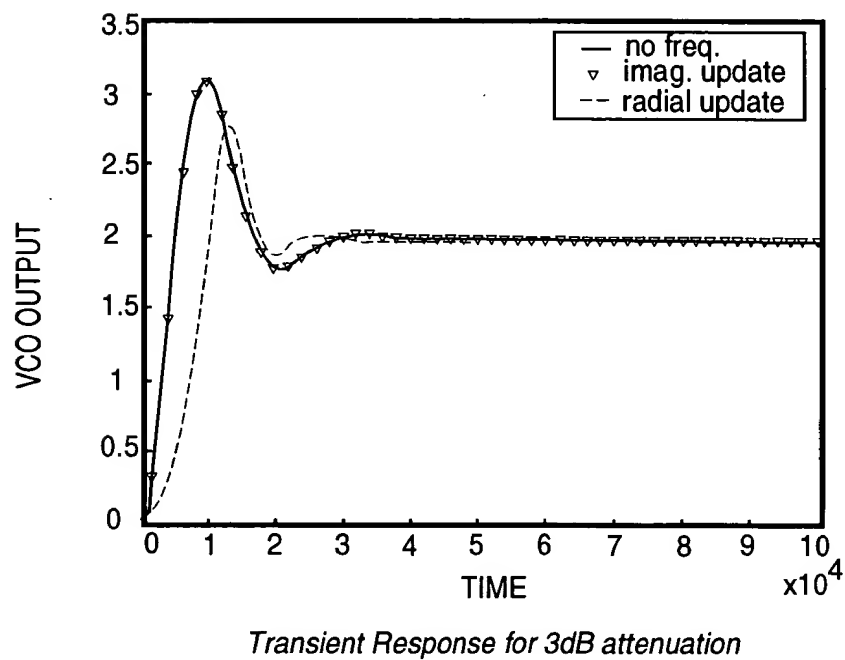


Fig. 13

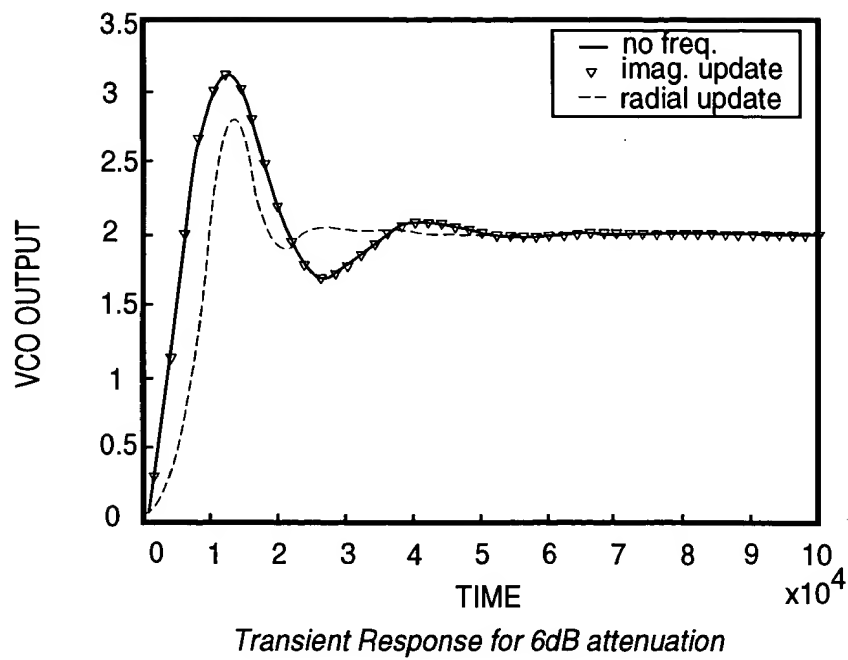


Fig. 14

